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10/656,516

09/04/2003

Michael V. Paukshto

A-72209/AJT/TJH

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06/07/2006

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/656,516

Applicant(s)

PAUKSHTO, MICHAEL V.

Examiner

Tarifur R. Chowdhury

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,4-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/30/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 30, 2006 has been entered.

Claim Rejections - 35 USC § 103

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1 and 4-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al., (Jones), USPAT 6,124,907 in view of Ignatov et al.,

(Ignatov), "Thin Crystal Film Polarizers and retarders", Proceedings of SPIE Vol. 4658 (2002) (provided by the applicant).

5. Jones discloses and shows in Fig. 1, a liquid crystal display comprising:

- a front panel (29);
- a rear panel (3); and
- a liquid crystal layer (11) placed between two said panels,

wherein the front panel comprises an internal polarizer (17) situated between an electrode (15) and a front surface of a substrate in the panel, and said internal polarizer and the electrode are directly laminated.

Jones fails to specifically disclose that the internal polarizer is made of a material chemically stable at an elevated temperature of at least 150° C.

Ignatov discloses a polarizer or a retarder having a thickness of less than 1 micron for use in LCDs made of an optically anisotropic dichroic crystal film comprising a rodlike supramolecules comprising at least one disc-shaped polycyclic organic compound with conjugated pi-system, and the film being characterized by an intermolecular spacing of 3.36 Å along its polarization axis and is formed from a lyotropic LC containing at least one dichroic dye that is chemically stable at an elevated temperature up to 250° C (page 7982). Ignatov also discloses that such polarizers are advantageous since they provide enhanced viewing angle characteristics and have high temperature and environmental stability (page 79).

Ignatov is evidence that ordinary workers in the art would find a reason, suggestion or motivation to use polarizers as claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have polarizers or retarders that is made of an optically anisotropic dichroic crystal film comprising a rodlike supramolecules comprising at least one disc-shaped polycyclic organic compound with conjugated pi-system, and the film being characterized by an intermolecular spacing of 3.36 Å along its polarization axis and is formed form a lyotropic LC containing at least one dichroic dye that is chemically stable at an elevated temperature up to 250° C in the display of Jones for advantages such as to enhance viewing angle characteristics and obtain polarizers that have high temperature and environmental stability.

Accordingly, claims 1, 4, 5 and 20-23 would have been obvious.

As to claim 6, Jones shows in Fig. 1 that the display further comprising an external polarizer (1) situated on the panel other than said internal polarizer.

As to claims 7, 8, 10-12 and 16, Jones discloses that his invention can be used in a reflective liquid crystal displays and ways to obtain a reflective liquid crystal display is to employ a reflector at the rear panel of a display device or forming a reflective electrode at the rear panel of the display device. Jones also shows in Fig. 1 that the rear panel further comprising a backlighting system. Further, using a semitransparent reflective layer at the rear panel to obtain a transflective display is common and known in the art. Also, it is known in the art to use reflector that is diffusive or specular.

Therefore, it would have been obvious to one of ordinary skill in the art to employ a reflective layer that is diffusive or specular at the back surface of the rear panel or forming a reflective electrode in the inner surface of the rear panel or forming a

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semitransparent reflective layer at the rear panel of Jones for advantages such as to obtain a display with improved brightness.

As to claim 9, Jones discloses the LCD device as recited above, however, fails to specifically disclose front lighting system.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have included a front lighting system since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Furthermore, front lighting system are well known in the art to provide illumination in reflective-type displays.

As to claims 13-15 and 17, Jones shows in Fig. 1 that the display further comprising an external polarizer (31) that is situated on the same panel as the internal polarizer performs the function of a correcting light filter and that the internal polarizer (17) covers the substrate (29).

As to claim 18, Jones also shows in Fig. 4, anti-reflective coating (61) on a front surface of the display.

As to claim 19, Jones also shows in Fig. 9 that the display device can also have a retarder (104).

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRC
June 01, 2006


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER